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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF: :  
JAKOB SCHARF ET AL : EXAMINER: TOOMER, C. D.  
SERIAL NO.: 09/644,556 :  
FILED: AUGUST 24, 2000 : GROUP ART UNIT: 1714  
FOR: STABILIZED MONOMER :  
COMPOSITION

DECLARATION UNDER 37 C.F.R. §1.132

ASSISTANT COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

SIR:

Now comes Dr. Joachim Knebel who deposes and states:

1. That I studied chemistry at the University of Cologne (Köln) from 1975 until 1984. I received my diploma degree in Organic Chemistry in the year 1980 and my PhD (Dr. rer.nat.) in 1984 in the field of Organic Chemistry in the academic group of Professor Dr. E. Vogel.

2. That I have been employed by Röhm since January 1985 and have been working since 1986 in the monomer research department.

3. That I understand the English language or, at least, that the contents of the Declaration were made clear to me prior to executing the same.

4. That the following experiments were carried out by me or under my direct supervision and control.

4.1 Experiments

Example A (according to the present invention):

In a DS25 thin-film evaporator of the Normschliff Glasgeräte Co. of Wertheim with top-mounted packed column (length 30 cm, diameter 30 mm, packing 6 x 6 mm<sup>2</sup> V4A steel coils), column head and condenser, there was distilled 1000 g of hydroxyethyl methacrylate raw ester, the ester being metered in by means of a hose pump. For stabilization, the ester contained 180 ppm of N,N'-diphenyl-p-phenylenediamine, 2 ppm of 4-hydroxy-2,2,6,6-tetramethylpiperidiny-1-oxyl, 160 ppm of diethylhydroxylamine and 36 ppm of cupferron. At an evaporator temperature of 130°C and a pressure of 14 to 19 mbar, hydroxyethyl methacrylate with a purity of 99.4% as determined by gas chromatography distills over at 0.71 l/h **without formation of polymer.**

Comparison Example B:

As in Example A, there was distilled 1166 g of hydroxyethyl methacrylate raw ester, but without additional stabilization. The purity of the distillate was 99.6%, but **polymer formed in an upper region of the thin-film evaporator and in the distillation column.** Since only 1 kg of monomer was distilled, polymerization mainly occurred in the evaporator.

4.2 Results

A comparison of Example A and Comparison Example B shows that the distillation can only occur without the formation of polymer if the claimed stabilizer combination of diethylhydroxylamine and cupferron (N-nitroso-Nphenylhydroxylamine ammonium salt, see specification at page 12, lines 13 and 14) is added.

5. The undersigned petitioner declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under

Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

6. Further deponent saith not.

Joachim Knebel

Dr. Joachim Knebel

2003-02-06

Date

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